

ASSIGNMENT

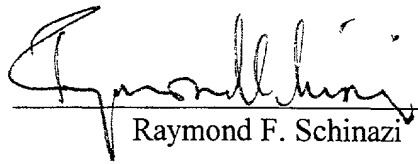
WHEREAS, WE, RAYMOND F. SCHINAZI, DENNIS C. LIOTTA, CHUNG K. CHU, J. JEFFERY MCATEE, JUNXING SHI, YONGSEOK CHOI, KYEONG LEE, AND JOON H. HONG have invented certain improvements in 2' FLUORONUCLEOSIDES for which we have executed United States provisional application 60/080,569 on April 3, 1998; and

WHEREAS, EMORY UNIVERSITY., a Georgia corporation having an office at 2009 Ridgewood Drive, Atlanta, Georgia 30322, desires to purchase same;

NOW, THEREFORE, in consideration of the sum of Five Dollars (\$5.00) and other good and valuable consideration paid by EMORY UNIVERSITY, the receipt and sufficiency of which are hereby acknowledged, I, RAYMOND F. SCHINAZI, have sold, assigned, transferred and conveyed and by these presents do hereby sell, assign, transfer and convey unto EMORY UNIVERSITY, in and for the United States and its territories and for foreign countries, the entire right, title and interest in and to said provisional application and said application for United States Letters Patent, in and to the invention therein set forth and in and to any patent which may issue on said application for United States Letters Patent or any reissue, renewal, division, continuation or continuation-in-part thereof; and I hereby bind myself, my heirs, legal representatives, administrators and assigns properly to execute without further consideration, any and all applications, petitions, oaths and assignments or other papers and instruments which may be necessary in order to carry into full force and effect the sale, assignment, transfer and conveyance hereby made or intended to be made.

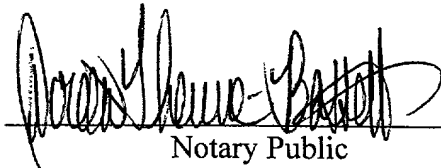
IN WITNESS WHEREOF, I have hereunto set my hand and seal this 5 day of

June, 1998.


Raymond F. Schinazi

STATE OF GEORGIA)
) ss.
COUNTY OF)

On this 5th day of June, 1998, before me, a notary public, came _____, to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.


Notary Public

(SEAL)

My commission expires: _____

Notary Public, Walton County, Georgia
My Commission Expires Sept. 18, 2001

ASSIGNMENT

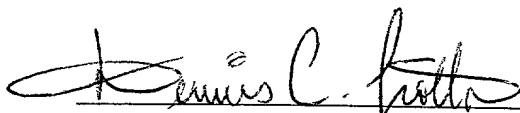
WHEREAS, WE, RAYMOND F. SCHINAZI, DENNIS C. LIOTTA, CHUNG K. CHU, J. JEFFERY MCATEE, JUNXING SHI, YONGSEOK CHOI, KYEONG LEE, AND JOON H. HONG have invented certain improvements in 2' FLUORONUCLEOSIDES for which we have executed United States provisional application 60/080,569 on April 3, 1998; and

WHEREAS, EMORY UNIVERSITY., a Georgia corporation having an office at 2009 Ridgewood Drive, Atlanta, Georgia 30322, desires to purchase same;

NOW, THEREFORE, in consideration of the sum of Five Dollars (\$5.00) and other good and valuable consideration paid by EMORY UNIVERSITY, the receipt and sufficiency of which are hereby acknowledged, I, DENNIS C. LIOTTA, have sold, assigned, transferred and conveyed and by these presents do hereby sell, assign, transfer and convey unto EMORY UNIVERSITY, in and for the United States and its territories and for foreign countries, the entire right, title and interest in and to said provisional application and said application for United States Letters Patent, in and to the invention therein set forth and in and to any patent which may issue on said application for United States Letters Patent or any reissue, renewal, division, continuation or continuation-in-part thereof; and I hereby bind myself, my heirs, legal representatives, administrators and assigns properly to execute without further consideration, any and all applications, petitions, oaths and assignments or other papers and instruments which may be necessary in order to carry into full force and effect the sale, assignment, transfer and conveyance hereby made or intended to be made.

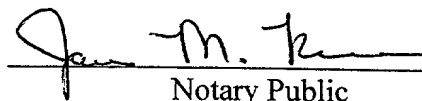
IN WITNESS WHEREOF, I have hereunto set my hand and seal this 4th day of

June, 1998.


Dennis C. Liotta

STATE OF GEORGIA)
)
COUNTY OF DeKalb) ss.

On this 4th day of June, 1998, before me, a notary public, came
Dennis C. Liotta, to me known and known to be the individual described in and
who executed the foregoing assignment, and he duly acknowledged the same to be his free act
and deed.


Notary Public

(SEAL)

My commission expires:
Notary Public, Gwinnett County, Georgia.
My Commission Expires August 30, 2001.

ASSIGNMENT

WHEREAS, WE, RAYMOND F. SCHINAZI, DENNIS C. LIOTTA, CHUNG K. CHU, J. JEFFERY MCATEE, JUNXING SHI, YONGSEOK CHOI, KYEONG LEE, AND JOON H. HONG have invented certain improvements in 2' FLUORONUCLEOSIDES for which we have executed United States provisional application 60/080,569 on April 3, 1998; and

WHEREAS, THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC., a Georgia corporation having an office at Boyd Graduates Studies Research Center, Athens, Georgia 30602-7411, desires to purchase same;

NOW, THEREFORE, in consideration of the sum of Five Dollars (\$5.00) and other good and valuable consideration paid by THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC., the receipt and sufficiency of which are hereby acknowledged, I, CHUNG K. CHU, have sold, assigned, transferred and conveyed and by these presents do hereby sell, assign, transfer and convey unto THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC., in and for the United States and its territories and for foreign countries, the entire right, title and interest in and to said provisional application and said application for United States Letters Patent, in and to the invention therein set forth and in and to any patent which may issue on said application for United States Letters Patent or any reissue, renewal, division, continuation or continuation-in-part thereof; and I hereby bind myself, my heirs, legal representatives, administrators and assigns properly to execute without further consideration, any and all applications, petitions, oaths and assignments or other papers and instruments which may be necessary in order to carry into full force and effect the sale, assignment, transfer and conveyance hereby made or intended to be made.

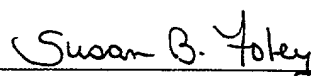
IN WITNESS WHEREOF, I have hereunto set my hand and seal this 4th day of

June, 1998.


Chung K. Chu

STATE OF GEORGIA)
) ss.
COUNTY OF)

On this 4 day of June, 1998, before me, a notary public, came
Chung K. Chu, to me known and known to be the individual described in and
who executed the foregoing assignment, and he duly acknowledged the same to be his free act
and deed.


Notary Public

(SEAL)

My commission expires: **Notary Public, Clarke County, Georgia**
My Commission Expires May 28, 2000

ASSIGNMENT

WHEREAS, WE, RAYMOND F. SCHINAZI, DENNIS C. LIOTTA, CHUNG K. CHU, J. JEFFERY MCATEE, JUNXING SHI, YONGSEOK CHOI, KYEONG LEE, AND JOON H. HONG have invented certain improvements in 2' FLUORONUCLEOSIDES for which we have executed United States provisional application 60/080,569 on April 3, 1998; and

WHEREAS, EMORY UNIVERSITY., a Georgia corporation having an office at 2009 Ridgewood Drive, Atlanta, Georgia 30322, desires to purchase same;

NOW, THEREFORE, in consideration of the sum of Five Dollars (\$5.00) and other good and valuable consideration paid by EMORY UNIVERSITY, the receipt and sufficiency of which are hereby acknowledged, I, J. JEFFERY MCATEE, have sold, assigned, transferred and conveyed and by these presents do hereby sell, assign, transfer and convey unto EMORY UNIVERSITY, in and for the United States and its territories and for foreign countries, the entire right, title and interest in and to said provisional application and said application for United States Letters Patent, in and to the invention therein set forth and in and to any patent which may issue on said application for United States Letters Patent or any reissue, renewal, division, continuation or continuation-in-part thereof; and I hereby bind myself, my heirs, legal representatives, administrators and assigns properly to execute without further consideration, any and all applications, petitions, oaths and assignments or other papers and instruments which may be necessary in order to carry into full force and effect the sale, assignment, transfer and conveyance hereby made or intended to be made.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 8th day of

July, 1998.

J. Jeffery McAtee
J. Jeffery McAtee

STATE OF GEORGIA)
) ss.
COUNTY OF)

On this 8th day of July, 1998, before me, a notary public, came
_____, to me known and known to be the individual described in and
who executed the foregoing assignment, and he duly acknowledged the same to be his free act
and deed.

Deborah Stephens-Leach
Notary Public
Notary Public, Fulton County, Georgia
My Commission Expires Jan. 18, 2000
My commission expires: _____

(SEAL)

ASSIGNMENT

WHEREAS, WE, RAYMOND F. SCHINAZI, DENNIS C. LIOTTA, CHUNG K. CHU, J. JEFFERY MCATEE, JUNXING SHI, YONGSEOK CHOI, KYEONG LEE, AND JOON H. HONG have invented certain improvements in 2' FLUORONUCLEOSIDES for which we have executed United States provisional application 60/080,569 on April 3, 1998; and

WHEREAS, EMORY UNIVERSITY., a Georgia corporation having an office at 2009 Ridgewood Drive, Atlanta, Georgia 30322, desires to purchase same;

NOW, THEREFORE, in consideration of the sum of Five Dollars (\$5.00) and other good and valuable consideration paid by EMORY UNIVERSITY, the receipt and sufficiency of which are hereby acknowledged, I, JUNXING SHI, have sold, assigned, transferred and conveyed and by these presents do hereby sell, assign, transfer and convey unto EMORY UNIVERSITY, in and for the United States and its territories and for foreign countries, the entire right, title and interest in and to said provisional application and said application for United States Letters Patent, in and to the invention therein set forth and in and to any patent which may issue on said application for United States Letters Patent or any reissue, renewal, division, continuation or continuation-in-part thereof; and I hereby bind myself, my heirs, legal representatives, administrators and assigns properly to execute without further consideration, any and all applications, petitions, oaths and assignments or other papers and instruments which may be necessary in order to carry into full force and effect the sale, assignment, transfer and conveyance hereby made or intended to be made.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 6 day of

July, 1998.

Junxing Shi
Junxing Shi

STATE OF GEORGIA)
)
COUNTY OF) ss.

On this 6 day of July, 1998, before me, a notary public, came
Junxing Shi, to me known and known to be the individual described in and
who executed the foregoing assignment, and he duly acknowledged the same to be his free act
and deed.

Jennifer Moore-Simpson
Notary Public

(SEAL)

My commission expires: _____

Notary Public, DeKalb County, Georgia
My Commission Expires April 12, 2002

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 8th day of

June, 1998.

Kyeong Lee

Kyeong Lee

STATE OF GEORGIA)

COUNTY OF Clarke)

ss.

On this 8th day of June, 1998, before me, a notary public, came Kyeong Lee, to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

Larry S. Lyness

Notary Public

(SEAL)

My commission expires: Notary Public, Madison County, Georgia
My Commission Expires October 4, 2000

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 8th day of

June, 1998.

Yongseok Choi
Yongseok Choi

STATE OF GEORGIA)
)
COUNTY OF Clarke) ss.

On this 8th day of June, 1998, before me, a notary public, came Yongseok Choi, to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

Larry S. Lynne
Notary Public

(SEAL)

My commission expires: Notary Public, Madison County, Georgia
My Commission Expires October 4, 2000

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 8th day of

June, 1998.

Joon H. Hong
Joon H. Hong

STATE OF GEORGIA)
) SS.
COUNTY OF Clarke)

On this 8th day of June, 1998, before me, a notary public, came Joonhee Hong, to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

Jerry A. Igner
Notary Public

(SEAL)

My commission expires: Notary Public, Madison County, Georgia
My Commission Expires October 4, 2000

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below), or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

2'-Fluoronucleosides

the specification of which (check one)

 x is attached hereto
 was filed on
as application Serial No.
 and was amended on:
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability and examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority
Claimed

(Number)

(Country)

(Day/Month/Year Filed)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of the application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status
60/075,893	February 25, 1998	Pending
60/080,569	April 3, 1998	Pending

As named inventor, I hereby appoint the following attorney(s) or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

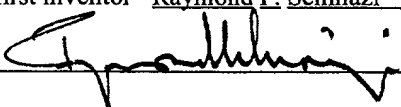
Sherry M. Knowles, Reg. No. 33,052
Jacqueline Haley, Reg. No. 41,457
Curtis L. Doster, Reg. No. 41,714

Send Correspondence to: Sherry M. Knowles, Esq.
King & Spalding
191 Peachtree Street
Atlanta, Georgia 30303-1763

Direct telephone calls to: Sherry M. Knowles (404) 572-3541

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Raymond F. Schinazi

Inventor's signature 

Date 3-13-99

Residence 1524 Regency Walk Drive Decatur, GA 30033

Citizenship U.S.A.

Post Office Address Same as above

Full name of second joint inventor Dennis C. Liotta

Inventor's signature _____

Date _____

Residence 251 Montrose Drive McDonough, GA 30253

Citizenship U.S.A.

Post Office Address Same as above

Full name of third joint inventor Chung K. Chu

Inventor's signature _____

Date _____

Residence 115 Cedar Springs Place, Athens, Georgia 30605

Citizenship U.S.A.

Post Office Address Same as above

Full name of fourth joint inventor J. Jeffrey McAtee

Inventor's signature _____

Date _____

Residence 1457 Willow Lake Dr. NE, Atlanta, Georgia 30329

Citizenship U.S.A.

Post Office Address Same as above

Send Correspondence to: Sherry M. Knowles, Esq.
King & Spalding
191 Peachtree Street
Atlanta, Georgia 30303-1763

Direct telephone calls to: Sherry M. Knowles (404) 572-3541

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Raymond F. Schinazi

Inventor's signature _____ Date _____

Residence 1524 Regency Walk Drive Decatur, GA 30033

Citizenship U.S.A.

Post Office Address Same as above

Full name of second joint inventor Dennis C. Liotta

Inventor's signature  Date _____

Residence 251 Montrose Drive McDonough, GA 30253

Citizenship U.S.A.

Post Office Address Same as above

Full name of third joint inventor Chung K. Chu

Inventor's signature _____ Date _____

Residence 115 Cedar Springs Place, Athens, Georgia 30605

Citizenship U.S.A.

Post Office Address Same as above

Full name of fourth joint inventor J. Jeffrey McAtee

Inventor's signature _____ Date _____

Residence 1457 Willow Lake Dr. NE, Atlanta, Georgia 30329

Citizenship U.S.A.

Post Office Address Same as above

Send Correspondence to: Sherry M. Knowles, Esq.
King & Spalding
191 Peachtree Street
Atlanta, Georgia 30303-1763

Direct telephone calls to: Sherry M. Knowles (404) 572-3541

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Raymond F. Schinazi

Inventor's signature _____ Date _____

Residence 1524 Regency Walk Drive Decatur, GA 30033

Citizenship U.S.A.

Post Office Address Same as above

Full name of second joint inventor Dennis C. Liotta

Inventor's signature _____ Date _____

Residence 251 Montrose Drive McDonough, GA 30253

Citizenship U.S.A.

Post Office Address Same as above

Full name of third joint inventor Chung K. Chu

Inventor's signature Chung K. Chu Date 3/10/99

Residence 115 Cedar Springs Place, Athens, Georgia 30605

Citizenship U.S.A.

Post Office Address Same as above

Full name of fourth joint inventor J. Jeffrey McAtee

Inventor's signature _____ Date _____

Residence 1457 Willow Lake Dr. NE, Atlanta, Georgia 30329

Citizenship U.S.A.

Post Office Address Same as above

Send Correspondence to: Sherry M. Knowles, Esq.
King & Spalding
191 Peachtree Street
Atlanta, Georgia 30303-1763

Direct telephone calls to: Sherry M. Knowles (404) 572-3541

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Raymond F. Schinazi

Inventor's signature _____ Date _____

Residence 1524 Regency Walk Drive Decatur, GA 30033

Citizenship U.S.A.

Post Office Address Same as above

Full name of second joint inventor Dennis C. Liotta

Inventor's signature _____ Date _____

Residence 251 Montrose Drive McDonough, GA 30253

Citizenship U.S.A.

Post Office Address Same as above

Full name of third joint inventor Chung K. Chu

Inventor's signature _____ Date _____

Residence 115 Cedar Springs Place, Athens, Georgia 30605

Citizenship U.S.A.

Post Office Address Same as above

Full name of fourth joint inventor J. Jeffrey McAtee

Inventor's signature Jeff McAtee Date 3/24/99

Residence 1457 Willow Lake Dr. NE, Atlanta, Georgia 30329 → changed to 3666 Hayfield Place

Citizenship U.S.A.

Post Office Address Same as above 3666 Hayfield Place Mobile, AL 36608

Mobile, AL
36608

Full name of fifth joint inventor Junxing Shi

Inventor's signature Junxy Shi

Date 3-18-99

Residence 1031 Scott Blvd. Apt. D3 Decatur, Georgia 30030

Citizenship China

Post Office Address Same as above

Full name of sixth joint inventor Yongseok Choi

Inventor's signature _____

Date _____

Residence 101 College Station Rd. Apt. A-211, Athens, Georgia 30605

Citizenship Korea

Post Office Address Same as above

Full name of seventh joint inventor Kyeong Lee

Inventor's signature _____

Date _____

Residence 101 College Station Rd. Apt. A-211, Athens, Georgia 30605

Citizenship Korea

Post Office Address Same as above

Full name of eighth joint inventor Joon H. Hong

Inventor's signature _____

Date _____

Residence 190 Baxter Dr. Apt 136, Athens, Georgia 30606

Citizenship Korea

Post Office Address Same as above

Full name of fifth joint inventor Junxing Shi

Inventor's signature _____ Date _____

Residence 1031 Scott Blvd. Apt. D3 Decatur, Georgia 30030

Citizenship China

Post Office Address Same as above

Full name of sixth joint inventor Yongseok Choi

Inventor's signature Yongseok Choi Date 3/10/99

Residence 101 College Station Rd. Apt. A-211, Athens, Georgia 30605

Citizenship Korea

Post Office Address Same as above

Full name of seventh joint inventor Kyeong Lee

Inventor's signature Kyeong Lee Date 10. Mar. 97

Residence 101 College Station Rd. Apt. A-211, Athens, Georgia 30605

Citizenship Korea

Post Office Address Same as above

Full name of eighth joint inventor Joon H. Hong

Inventor's signature Joon H. Hong Date 3/10/99

Residence 190 Baxter Dr. Apt 136, Athens, Georgia 30606

Citizenship Korea


Post Office Address Same as above

U.S.S.N.09/257,130

Filed: February 25, 1999

TRANSMITTAL OF NOTICE TO FILE MISSING PARTS

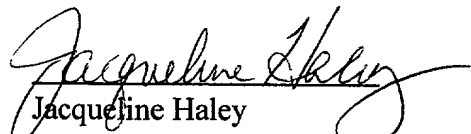
Respectfully submitted,


Jacqueline Haley
Reg. No. 41,457

KING & SPALDING
191 Peachtree Street
Atlanta, GA 30303
(404) 572-3541

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this Transmittal, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.


Jacqueline Haley

Date: April 12, 1999